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Great Meeting of German Bee-Masters,

HELD AT DARMSTADT, SEPT. 8, 9, AND 10, 1868.

These meetings of bee-masters held periodically in one after another of the principal towns of Germany, show what a point bee-keeping has reached in that country, and are most interesting as well as advantageous in their results. The meeting, which was held this year at Darmstadt, the capital of the Grand Duchy of Hesse, was attended by a large number of the celebrities of German bee-keeping. Some well-known names, including Baron von Berlepsch, (who is suffering from a stroke of paralysis, but growing better,) are missed from the list, but still a meeting attended by such men as Dzierzon, Von Hruschka (the inventor of the centrifugal comb-emptying machine,) Vogel (introducer of the Egyptian bee to Germany,) Dathe, Koehler, Professor Leuckart, of Giessen, perhaps the first authority of the day on the natural history of the bee, a Greek Priest from Croatia, Marchesi Crivelli, the great reformer in Italian bee-keeping, from Milan, to say nothing of many others more or less known, from all parts of Germany, and several from France, could not fail to be interesting. Great facilities were also afforded by the fact that almost every railway company in Germany and Austria conveyed bee-keepers or other visitors to the meeting, as well as articles for exhibition, at fares generally 50 per cent. or more reduced.

The first day of the meeting was Sept. 8, and at half-past ten the President, His Excellency Herr von Berchthold, opened the proceedings, by welcoming the visitors in the name of H. R. H. the Grand Duke, who had placed his orangery and adjoining grounds at the disposal of the meeting, and addressed the assembly in a short speech, followed by two other addresses by the Mayors of Darmstadt and Bessungen.

The President then read out the rules for guiding the speakers, and the real business of the day was commenced by a speech by Professor Leuckart, enforcing first of all the necessity of learning theory as well as practice, in order to become a successful apiarian. He then proceeded to notice the points of similarity and difference in their habits between hive bees, wasps, ants, and humble bees, dwelling especially upon the extraordinary fertility of the queen bee.

The first subject upon the programme then came on for discussion. "1, What is the cause of the difference of size of queen bees? 2, Are the larger queens to be preferred to the small, and why? 3, Is it in the bee-master's power to insure the production of large queens?

These questions had been proposed by Dzierzon, who ascended the speaker's platform amidst a storm of applause. The substance of his remarks was: 1, That the difference in size is caused by difference in food during development, and depends, therefore, much upon whether the queens be bred during the time when there is abundance of pollen or not; pollen being, in fact, the element of their food, which is of most importance in this respect. 2, That although smaller queens are, often, at least, as fruitful as large ones, yet that the advantages of size in other respects are great, as, for instance, if the queen is to be caught, and especially because experience has shown that large queens are annually impregnated in a much shorter time than small ones; a difference sometimes, especially in cool weather, being observed of ten days. The third question is answered mainly in the remarks on the first, merely adding that the fewer queens that are being bred at once by one stock, the larger they are likely to be.

Dr. Pollmaun, from Bonn, thought that the difference in size depended much on the age of the grubs in the case of artificially-bred queens, for that a grub which had been fed four to five days with common food, could not develep to the same size as if it had all along enjoyed royal food; and also on the fact that the egg naturally destined to become a queen is kept warmer at the first than other eggs. As every bee keeper will allow, large queens must be stronger than small ones, and to produce large ones we must always take care to commence with the egg at as early a stage as possible.

The second subject then came in order. "What is the result of all that has appeared in

the *Bienenzeitung* during the last year upon foulbrood?'

This question had been proposed by Baron von Berlepsch, and, owing probably to his absence, the discussion assumed a somewhat desultory character. The substance, however, was much as follows: Dr. Preuss, a scientific microscopist of some authority, and an experienced bee-keeper, and Professor Leuckart, unhesitatingly attribute the worst kind of foulbrood to the presence of a microscopic fungus, similar, probably, to the one affecting the silkworm in North Italy. It was also remarked that foulbrood had much increased since the introduction of the Italian bee. The fungoid theory was also supported by some of the non-scientific bee-masters present, as affording a satisfactory explanation of many of the details connected with foulbrood.

Professor Leuckart thought it probable that the eggs (but, of course, only in the worst case) contained already the germs of the disease, an opinion which was opposed by those who alleged cases where they had saved the queens of condemned stocks, which had afterward always produced a healthy succession.

Upon the question how to deal with foulbrood, the opinion was almost general, that the stocks, some said the hives, too, must be destroyed. Others, again, and amongst them no mean authorities, maintained that they had cured foul brood by a process recommended by the Rev. Mr. Schieberle, of Moravia, at the meeting of German bee-masters held at Brünn, in September, 1865.* It seemed also probable, that in many cases foul brood arose from feeding bees with the impure honey imported from Havana and other places. The next question on the programme was—

"Whether foulbrood is a result of using hives with moveable combs, and not rather of imprudence when giving them drink in winter?" Unfortunately Mr. Kleine, whose question this was, was detained at home by domestic affliction; but in his stead Mr. Dzierzon remarked, that though, doubtless, in the hands of inexperienced and incompetent bee-keepers, the system of moveable combs had its dangers, yet, as a matter of fact, it was the easiest, if not the only means of discovering foulbrood and overcoming it. He could not understand the meaning of the second half of the question, and had no idea what could be passing in Mr. Kleine's mind to make him connect foulbrood with giving bees drink in winter.

Dr. Busch remarksd that possibly Mr. Kleine had formed his opinion from some scientific articles which had appeared in the Hanoverian *Bee Journal*, of which he is the editor, A Mr. Lambrecht had there made known the results of various chemical investigations, which had induced him to attribute foulbrood to the bees feeding upon pollen which had been wetted and in consequence had fermented.

The next question discussed concerned some details in the construction of hives (first introduced by Dzierzon) with moveable combs, and since used with but slight modifications throughout Germany. We may pass this by as having little interest for English bee-keepers.

After this followed the question; "Whether there are localities so absolutely unfitted for keeping bees that, in spite of all the experience and pains of the bee-master, the best stocks, if moved thither, die off in a short time?"

The only speaker to this question proved that bee-keeping might be impossible in some localities owing to neighbors poisoning the bees. After keeping them successfully for forty years, he had, owing to the diabolical behavior of a neighboring manufacturer, lost in four years the whole of his bees, above $500 in value.

This led naturally to the question next in order, only interesting to Germany, as to the desirability of some laws as to bee-keeping.

After this Mr. Dzierzon spoke to one of his own suggesting—1st, "At what age do young bees first leave the hive and first gather honey? 2nd, Would it be advisable, without reference to wintering, to hinder the breeding of bees which cannot gather any honey in the current season?"

Mr. Dzierzon remarked that he had been induced to suggest this question in consequence of statements in Baron von Berlepsch's new edition of his bee book, in which it is stated that young bees begin first to gather honey in about thirty-five days; and that, consequently, it is advisable to prevent the increase of brood from about thirty-five days before the end of the honey season. Dzierzon believes that a young bee may leave the hive when three days old, or remain at home for as many months, so that no precise number of days can be given. If there are plenty of workers, young bees would remain longer at home; if there were few old bees, as when a hive has been moved, the young bees would gather sooner. This he could assert from experience. And the second suggestion was grounded upon a mistake, for the activity of bees depends very much upon the amount of brood. If, therefore, for the last thirty-five days they had but little or no brood, they would gather comparatively less honey.

Mr. Vogel had seen young bees, after careful observation, come out of their hives when six or seven days old, but only in isolated cases. As a rule the eighth or ninth day would be the earliest, and dependent also upon circumstances of temperature, wind, strength of the stock, &c. Young bees do not gather honey till sixteen days old, as is proved by the fact that they starve under that age, if left in a hive without honey or older workers. He agrees, therefore, on the whole with von Berlepsch as regards the first part of the question. As regards the second half, Dzierzon has not understood von Berlepsch, who does not say that one should not suffer *any* brood after a certain time, but that one should not suffer *unnecessary* brood, a mistake often made by beginners. And von Berlepsch's remarks are intended for places with very short honey harvests.

Mr. Köhler agreed with the last speaker, and remarked in addition, that the question how old the bee is when she first leaves the hive, had a very important bearing upon the question of

*We shall give a description of Mr. Schieberle's mode of curing foul brood in an early number.—Ed.

uniting weak stocks for the winter, an operation which he thought was usually undertaken too late in the year. It should be done some time before, and not after, the end of the honey harvest.

The next question on the list was, "Whether it be possible to hinder drone brood in hives with moveable combs, without having recourse to the old method of cutting out drone combs?"

Mr. Dathe was of opinion that it was better not to let the bees build drone cells, by filling up any empty space in the breeding-room of the hive with worker comb so soón as the bees begin drone cells. To suffer bees to build drone combs, and then to cut them out, involves a great waste of honey and a great loss of time for the bees, who build drone cells over and over again. By filling up the gaps, we should probably have young bees in the same space where, but for this, we should still be cutting out drone comb. Further, the bee-keeper saves himself the time and trouble he would otherwise necessarily have to devote to examining his hives and cutting out the drone cells. Of course in the space devoted to honey the bees may build as much drone comb as they please. The speaker had for eight years allowed no drone brood where he did not wish it, and this without any cutting-out. For this purpose it is necessary, 1, That there should be a division between the brood room and honey room, so long as the bees wish to build drone cells. 2, The bees must not be allowed to build in the breeding space after they cease to build worker cells. 3, In spite of all care, some drone cells are sometimes built in the breeding space. These should be at once removed to the honey division, using in fact for this part of the hive all the drone cells one can bring together.

The speaker then added: 1, That worker comb should never be destroyed, but either kept for feeding the bees if necessary, or, 2, Emptied by means of the centrifugal machine, and the empty comb used again. 4, Every means possible should be employed to secure a good store of worker comb from artificial swarms, late swarms, &c., and others which cannot be wintered. 4, We can compel any hive to build worker comb by reducing it to the condition of a swarm, *i. e.* by taking out nearly all the combs. 5, We may take out all perfect combs from a hive with a young queen; the bees will then build worker cells. 6, and lastly, When compelled we may use artificial comb foundations. These conclusions were supported by Messrs. Hopf and Huber. The latter also suggested that it would often be a good plan to remove the old queen with the drone combs in order that the bees having then a young queen might build worker cells; but it should not be forgotten that till the young queen is ready to lay, only drone cells would be built if the bees were allowed access to empty breeding space.

The proceedings of the first day were then concluded with a few words from the President, and the appointment of judges for articles exhibited.

Honey is a favorite food and medicine with the Bedouins in Northern Arabia.

[For the American Bee Journal.]

Practical Bee-Culture.

Practically considered bee-culture is something more than the mass of persons who own a few hives each think it is; for there are comparatively few that understand the laws that govern breeding and swarming, or the general economy of the hive. Success in bee-keeping depends greatly on the condition in which the bees are in the fall, and how they are wintered. In order to know their condition it is necessary that all the stocks should undergo a thorough examination, to ascertain, first, whether the swarm has a good queen; secondly, whether it has sufficient population to form a dense cluster, say from five to seven pounds of bees; and, thirdly, whether it has at least twenty-five pounds of honey and pollen; for honey is to the bee what money is to the business man, in common with others.

Wintering bees in special repositories is attended with considerable trouble and expense, unless the right kind of cellar is at command; and then, here in Iowa, the spring of the year is so cold and blustering that, frequently, it is difficult to get a day that is calm, and clear, and warm enough to enable a fallen bee to rise from the ground again and return to its hive. In this climate there are so many changes of weather that it is extremely difficult to keep bees sufficiently protected from the cold, and have them so ventilated in warm spells as to keep them reposing quietly in their hives. Now in these winter quarters their confinement is frequently protracted to four or even five months, during which lapse of time their abdomens become very much distended; they become restless, and will discharge their excrement in the hive and about the entrance. These facts lead us to inquire how bees can be wintered on their summer stands. Mr. Langstroth has published a plan, which I think is well suited to the climate in which he lives; but in the western and northwestern States, it would not afford sufficient protection to bees in his present form of hives. Mr. Langstroth has done more for the advancement of the science of bee-culture than any other man in the United States, and deserves to be held in grateful remembrance by every person who has any love for the interesting and profitable insects. But still I feel constrained to say that the shallow form of hive is not a good one for outdoor wintering. I use his hive in three different forms; but prefer one that contains nine frames, and is thirteen inches and a half square, by ten inches deep; and on top of these nine more frames of the same size, placed three-eighths of an inch above the first set; and over these a crownboard on which eight boxes are placed, four upon four; with a summer entrance at the top of the second set of frames, just under the crownboard. This entrance should be closed at the end of the honey season. My reason for preferring this form of hive, or rather for discarding the shallow form, is, that in the latter there is a great waste of animal heat; whereas in the former this heat is

so concentrated that the bees on the lower range of combs warm the upper set. The lower frames in winter contain a comparatively small portion of their winter stores, affording the bees abundant room to cluster. The heat arising from the bees below enables them to ascend with safety to their stores above, when wintered in the open air. Besides these advantages, the same amount of bees can rear one-third more brood than in the shallow one story form of hive. Now this does not injure Mr. Langstroth's hive, for no man can make a bee hive that is worth the lumber required to make it, unless he uses the principle that *he* has patented. Nor does Mr. Langstroth pretend that a better *form* of hive cannot be got up.

I have tried the clamp, and the cellar, and out door wintering; and the above described hive, for out door wintering, has worked out the most satisfactory results, in getting through the winter cleaner and with fewer dead bees, and in better condition than in any other hive. Now I never like to spend much time in puffing my own inventions, but would simply suggest to other bee-keepers the propriety of trying the same experiment for themselves. As this has been the poorest season ever known in the West, of course unless we feed bountifully in the latter part of winter and early spring, there will be large amounts of bees lost.

There are other things indispensably necessary to be done, in order to succeed at bee-culture. It is important to adopt the nucleus system, for the reason that the parent stock should not be left to raise a queen, for the simple reason that if they start a queen from an egg just deposited in the cell, it requires sixteen days before she emerges from the cell, and at least ten days more before she begins to lay eggs, and will lay only a few for several days. Then it requires twenty-one days for these to emerge from their cells, and the young bees must be at least nineteen days old before they join in gathering honey and pollen. Thus sixty-six days pass away before these workers take the place of those that passed away during the period to supply the present hive with a fertile queen. The parent hive meantime becomes destitute of brood, and the populatian so reduced that they cannot store up surplus honey, or can do so only occasionally. Providing a supply of fertile young queens from nuclei, to take the place of such as have become exhausted or superannuated, is essential to successful management.

All queens that are not prolific should be discarded before the honey season fairly sets in; and no colony of bees should be allowed to remain queenless a day longer than is absolutely unavoidable. And in order to obtain sealed queen cells, for the multiplication of stock and as a provision for contingencies, I am satisfied from actual experience, that it will pay well for all trouble and expense to keep reserve queens on hand all the time—thus enabling the bee-keeper to meet every emergency, whether queenlessness arise from superannuation, exhaustion, or accident.

JAMES MCMULLEN.

OSKALOOSA, IOWA.

[For the American Bee Journal.]

Loss of Bees in Kentucky.

MR. EDITOR:—In the January number of the BEE JOURNAL, I saw an article taken from the Louisville *Democrat*, headed "Extraordinary Exodus of Honey Bees, &c.," which I am disposed to believe, without knowing anything of the particular case alluded to, to be composed of fact and fiction in about equal proportions. Mr. James Broil has probably experienced what hundreds, and perhaps thousands, of bee-keepers all over Kentucky, except perhaps the mountain districts, have experienced—namely, the loss of all their bees. But that his and his neighbors' bees all "lit out" suddenly and mysteriously, in one night, needs confirmation. He had probably not noticed his hives much for some time, and, when he did look at them, was much surprised to find them deserted; but where their inhabitants went he is not able to say.

The description of the condition of the bees for a "circuit of twenty-five miles" around the farm of Mr. Broil, after making the proper deductions for the extravagance of the writer, who was evidently trying to produce a little sensation, or was writing under the influence of one, will answer very well for three-fourths of the whole State of Kentucky. I am constantly hearing, from every direction, of great numbers of bee-keepers losing sometimes nearly all their bees. There is no doubt but next spring will show a fearful loss of bees in this State. Bee-keepers are puzzling their wits to find out the cause of this loss. It seems that Mr. Broil and his neighbors, according to the Louisville *Democrat*, think the "mildness of the weather up to so late a season" caused it. Others, having discovered that there is little or no pollen in the hives, think that is the cause. And so it goes, just as a man happens to notice something which he had never noticed before.

As I am rather a novice in bee-keeping, I shall not attempt to speak positively as to the cause of this loss of bees, though I am pretty well convinced that it can be accounted for on well known principles. Last spring, just after the peach trees bloomed, there came a very severe frost, or rather a succession of frosts, which destroyed a great part of the fruit blossoms. Then followed a long cold and wet spell. The queens stopped breeding, and the bees drove out the drones. Owing to the severe drouth the fall before, the white clover, which is the principal dependence for spring honey, was a failure; and there was very little bloom on the black locust, which precedes the clover. In fact, there was an entire failure of swarms and surplus honey, as the honey season, throughout the spring and summer, was very poor. I think the queens bred less on this account, and consequently the stocks of bees were rather weaker than usual. I think, too, that the queens must have stopped breeding earlier in the fall. Late in the fall the weather was mild, and the fall pasturage for bees pretty good. Now the bees having no brood to feed, did not carry in any pollen of consequence,

and were able to lay up some stores of honey—though not to the extent that one might be led to suppose by the article in the *Democrat*. But the bees that did this were *old bees*. They soon died of old age, and there being no young ones coming on to fill their places, the stocks became so weak that they perished and left the hives desolate.

I am confirmed in this opinion from the fact that I fed my bees to promote breeding, whenever they were not getting honey from the fields, and have sustained no such loss. Out of seventy-five or eighty stocks that I carried through the summer, I have lost only two, and they died from dysentery—which I attribute to feeding them with some poor honey that had begun to ferment.

I could give some other facts, tending to support the view which I have presented, but fear I shall make this communication too long

D. BURBANK.

LEXINGTON, KY., January 14, 1869.

[For the American Bee Journal.]

What I Will Do.

I will give FIFTY DOLLARS for a stock of Italian bees—the progeny of a pure queen that mated with a drone produced by a pure queen that mated with a common drone—in which every bee, native there, *has* three yellow bands.

On the other hand, I will give FIFTY DOLLARS for a stock of Italian bees—the progeny of a pure queen that mated with a drone produced by a pure queen that mated with a *pure* drone—in which there can be found a single bee, native there, *has not* three yellow bands.

In other words, I would say that a pure queen mating with a *common* drone will never produce drones *entirely pure*—they will have a dash of black blood; and a queen mating with such drones, I care not how pure she may be, will never produce a progeny of *three-banded bees*. Some will have three bands, while some will have only two, and some only one. Every bee, however, will be marked with one, two, or three bands. There will be none entirely black, as in a hybred stock. On the other hand, a pure queen mating with a drone produced by a pure queen that mated with a *pure* drone, will *always* produce *three-banded bees*.

Gentlemen bee-keepers, these are facts; make out of them what you like.

J. H. THOMAS.

BROOKLIN, ONTARIO.

Distributed over the wide pastures of the Ukraine, every peasant has his store of hives, which frequently, in their harvests, realize more largely than their crops of grain—multitudes of that peasantry computing as important items in the estimate of their wealth, the number of their bee hives, which often exceed five hundred to the individual possessor.

Bees make their hives in all the crevices of rocks in Hedscha, finding everywhere aromatic plants and flowers. At Taif, bees yield most excellent honey, and the honey at Mecca is exquisite.

[For the American Bee Journal.]

The Bee Disease.

MR. EDITOR:—"That bee disease" has swept over this part of the country, and destroyed nearly all the bees. I had fifteen stands of the black bee. They commenced dying off very rapidly. I became satisfied that it was the fault of their food; although my Italians did not appear to be affected by the disease at all, and in two "old" stands of black bees in Brazier patent hives, which contained much stores from the season before in the large brooding chamber, there were only about one-fourth as many dead bees as in the rest. I noticed also that young stocks, which had all new stores, died much faster than old ones that had some old stores remaining.

I watched the movements of mine till ten of the fifteen stands were dead, and three of the remaining five were nearly so—some of them reduced to not more than a quart of bees in a hive. I commenced with these, and removed all their stores that I could, and fed them with a feed made of crushed sugar dissolved, adding one pint of West India honey to each half gallon of dissolved sugar, and boiling down to the consistence of honey, skimming it well as it boiled. Thus I fed them all the time, kept plenty of rye flour constantly by them, and put a handful of salt in each hive.

The result was that they stopped dying; and my weak stands survived, with not more than a quart of bees in a stand. But they appear to be in a healthy condition, and some of them have commenced to rear brood—stimulated, probably, by the feed.

This is my experience with "that bee disease." There was none of my stocks that died but had plenty of honey and pollen left; and that was the case also with most of those that died within my knowledge. I give this for what it is worth.

I do not pretend to say that the *salt* had anything to do with the arrest of the disease, though I think it may have had. The bees appeared to be fond of it when first put in.

I find on examining my Italians to-day that there are some more dead bees under each stand than is usual at this time of year. It may be that they are taking the same disease. I have not fed them any as yet.

B. PUCKETT.

WINCHESTER, IND.

Wild bees are sometimes exceedingly pleasant to capture, for many of them emit the most agreeable scents; some the pungent and refreshing fragrance of lemons; others the rich odor of the sweet-scented rose; and some a powerful perfume of balcumic fragrance and rigorous intensity. These, however, have their set-off in others which yield a most offensive smell, in comparison with which that of garlic is pleasant, and assafœtida a nosegay. These odors must have some purpose in their economy, but what it may be has not been ascertained.—SHUCKARD.

[For the American Bee Journal.]

Singular Disease of Bees. Its Cure.

I fancy the following extract from an article on "The Diseases of Bees," which I wrote some time since for the *London Journal of Horticulture*, may throw some light on the singular disease described by C. E. Thorne, in page 120, volume 4, of the AMERICAN BEE JOURNAL:

"DROPSY (?).—During the winter of 1861-2, I lost three stocks from what at the time I called, and believed to be dysentery, but which I am now disposed to consider a malady heretofore undescribed by apiarians, and which may perhaps be appropriately designated 'dropsy,' to which disease it bears indeed no inconsiderable resemblance. The symptoms are great enlargement of the abdomen, which becomes so distended from a watery fluid that the unfortunate bee is perfectly unable to fly, in which state it either betakes itself to the top of the hive, or rests on the floor-board, where, if the weather be cold, it dies, or whence, if the weather be warm, it drops on the ground and crawls about until it expires. The natural functions appear to be entirely suspended, and if the abdomen be forcibly compressed, a rupture of the membranes takes place, attended by a flow of its watery contents, which emit a sour and disagreeable odor. Contrary to what Dzierzon remarks in the case of dysentery, the queen enjoys no immunity from this disease. When she is attacked she becomes incapable of oviposition, whilst her abdomen swells to a remarkable size. After some days have elapsed, she loses her hold on the combs and drops on the floor-board, where surrounded by a number of her subjects, she may yet linger many hours before death relieves her from her sufferings. A friend of mine, who is an excellent naturalist, undertook to preserve and set up a very handsome Ligurian (Italian) queen that perished in this way, and he informed me that, on opening her abdomen, a good teaspoonful of fluid gushed out! I had also a young Italian queen which, about the time I expected her to commence egg-laying, increased so rapidly in size that I became not a little proud of her as the largest queen I ever saw. Alas! for the futility of human hopes! My magnificent queen turned out to be not *enceinte*, but diseased, and perished without ever having laid an egg.

"I had two other instances of this malady about the same time, in which the queens escaped, and I could almost fancy their breeding powers were actually stimulated by the presence of the disease, since their fecundity not only overtook the extraordinary mortality which constantly prevailed, but theirs became two of the strongest stocks in my apiary. It was, however, most pitiable to see, all through the spring and during the finest summer weather, the ground in front of the hives perpetually covered with hundreds of disabled and dying bees, which crawled about in all directions, setting up at intervals a feeble vibration of their wings, as if in faint imitation of the hovering crowd of joyous laborers overhead, in whose delightful toil they were never again to participate.

"It will readily be believed that I exhausted my ingenuity, and sought for information from all quarters, in the hope of effecting a cure. I even obtained the advice of the great Dzierzon, who was, however, unable to suggest a remedy, but opined that the disease I described was a 'kind of dysentery.' As a remedial measure, I first tried shifting the bees and their combs into clean hives, but no mitigation of the virulence of the disease was the result. I next took away all their combs and brood, which I gave to other bees, and compelled those I had thus rendered destitute to commence their world afresh in an unfurnished habitation; but all to no purpose. New combs were built and profusely bred in, but still the mortality continued. One thing, however, became evident, viz: that the infection, whatever it might be, was certainly confined to the bees themselves, since neither their combs nor their brood communicated it to those healthy stocks to which they had been transferred. It therefore occurred to me, that if I could succeed in eliminating every diseased bee, retaining only those which were perfectly healthy, I might succeed in banishing the disease altogether; and as this really turned out to be a 'perfect cure,' I will fully describe the means by which it was effected. Selecting a fine day, and spreading a cloth on the ground, I looked over the combs until I discovered the queen, which I imprisoned in a queen cage, and then set the hive on the ground, putting an empty one in its place. I next took out the combs one by one, brushing off every bee on to the cloth, placing the combs into the previously empty hive; and completed the operation by putting on the crown-board and introducing the queen at the top. In this way I effected the end I had in view, which was, that no adult bee should be permitted to enter the new hive, that was unable to rise from the ground and gain the entrance by means of its wings. A number of infant bees, as yet unable to fly, were unquestionably lost; but I spared no pains in rescuing as many of these as possible, and had the satisfaction of finding that I had at length affected a radical cure."

T. W. WOODBURY.
("A Devonshire Beekeeper")

MOUNT RADFORD, EXETER, ENG. December 21, 1868.

The wild bees appear to be of annual, or of even more restricted duration merely. Of this, however, we have no certainty. The conclusion is derived chiefly from the circumstance that, as they progressively come forth with the growth of the year, they, when first appearing, are in fine and unsoiled condition. But some species of humble-bees are reputed to have a longer life than of one year.—SHUCKARD.

The quantity of pollen that is collected in the course of a season, by the diligence of the bees of a colony, has been estimated at from sixty to seventy pounds.—SCHUCKARD.

[For the American Bee Journal.]

The Bee Disease, and its Probable Cause.

A similar disease to that spoken of by Mr. Thorne and many other beekeepers, occurred in France in the rainy springs of 1853 and 1854. Many colonies died of it and it was a true epidemical malady in that and the neighboring countries. I translate for the benefit of the readers of the BEE JOURNAL, the following description of the disease from the "*Laws d'Apiculture*" of M. H. Hamet.

CONSTIPATION.

"This disease is the result of a sudden and great fall of temperature, while the abdomen of bees is filled with fæces. In the spring of rainy years it sometimes happens, in March or April, that the temperature falls in three or four hours from 60° to 20° F., with a piercing wind. The bees in feeble ruchees (colonies) then consume much honey, to keep up the necessary heat within their hives. But though having gorged themselves, they cannot attain their aim, and become constipated.* Under a higher temperature, they would have got rid of it with dysentery; but under a low temperature the excrements thicken within their bodies and can no longer be discharged. Some bees try to fly, but mostly drop near the hive. Some die on the bottom-board; and some even between the frames.

"This constipation is produced likewise by honey gathered in the fall, which has not been sealed. Absorbing moisture in the wet season, it decomposes and at times becomes so thin as to run out of the cells. It is well to remove the combs containing such honey.

"The bees attacked by this disease do not accept any food. Strong and rich colonies, when alone, rarely get the disease. I say, when alone, because constipation, like foulbrood, becomes epidemic when not controlled against. It can be stopped by isolating the diseased ruchees, and feeding the remainder of the healthy colonies with substantial warm food, such as good honey mixed with thick sugar syrup.

"Thick-sided warm hives prevent the spontaneity of the disease. In France, at the beginning of spring and at the close of summer, almost every ruchee loses some bees from the malady; but their bodies being promptly removed, have not time to exhale the mischievous miasms which make the disease contageous." Thus far M. Hamet.

All the reports of the bees made to the BEE JOURNAL, with one exception, show that the malady began after the first cold days of September. Mr. Cunningham alone states that in Kentucky it began about the 20th of August. But from the article in the *Louisville Democrat* it would seem that it was not noticed in that county before November. I beg Mr. Cunningham to refresh his recollection, because if it be certain that the disease appeared in August, consequently before cold weather, we shall have to look for the cause in something else than the cold spell which occurred here so suddenly, on the 10th of September.

I advise all beekeepers whose apiaries suffered from this disease, to spade up the ground in front of the hives, so as to bury the dead bees that fall there; or to remove their living colonies to some other localitiy, if practicable, and feed them with good white sugar, after removing all the dead bees that may be found in the cells—keeping a sharp eye on the colonies, until time and young bees have re-invigorated them.

CH. DADANT.

HAMILTON, ILLS.

ERRATA in my article on page 147 of the February number of the BEE JOURNAL. First column, line 13, for *ceased* read *began;* and second column, line 34, for *three* read *their*.

C. D.

[For the American Bee Journal.]

Bees Disappearing.

The mysterious disappearing of the bees, the past season, presents a question of great interest for solution, and one well worthy of careful investigation. With this view I call the attention of beekeepers thereto, and offer what I conceive to be the most rational explanation. There are two ways to account for it. The theory to which I am inclined is that, in consequence of the honey dearth the past season, bees were compelled to resort to sources of supply not generally frequented by them; and that the honey gathered from these sources was poisonous to them.

The reasons that lead me to this conclusion are that, during the latter part of August and beginning of September, my bees were gathering honey from some source that killed hundreds of them. They could be seen crawling away from the hive, on the ground; and on the alighting-board; so weak that they actually struggled and reeled as if they were intoxicated; and all that were so effected, died. This lasted for a week or two; and as soon as that source of honey failed, they ceased to die. It was said to be a species of milkweed, but I do not know what it was. About the same time the year before my bees suffered some, but nothing at all compared to what they suffered last fall.

Now it seems to me that if the honey was so poisonous as to kill bees when only carrying it home, that it certainly would kill them when eating it. And this is just what seems to be true, as all that die, leave plenty of honey, and some as much as thirty and even forty pounds. During the latter part of the season they gathered nearly all they have as winter stores; and it is only since winter set in, and they have commenced to consume this poisonous honey, that the effect is apparant. And as every sick bee naturally crawls out of the hive to die, it accounts for the gradual and consequently un-

*The Italian bees, keeping themselves and their brood more compact, are less liable to contract the disease, at least before it becomes epidemic.

noticed disappearing of the bees, one or two at a time, until all were gone, and the bee-man was left to guess at the cause of his bees leaving so mysteriously, with plenty of honey to winter on still in the hive.

The other theory supposes that the queens ceased to lay eggs in consequence of the scarcity of honey, and that thereby the colonies were so reduced in numbers as to be unable to generate heat enough to sustain life. In my own apiary I know that this was not the fact; for my own bees not only produced plenty of workers but drones also, through July and August; and I even thought of caging the queens to stop breeding. Then, too, those hives that contain large quantities of honey and no bees, must certainly have gathered it; and experience teaches me that bees breed freely when storing honey.

As the honey crop is a failure all over the country, and even in Europe, we can by investigation, learn which of these theories is correct, for the poisonous honey would not be found over all this extent of country. Yet the influence of the honey famine would affect the bees in some way everywhere. It is to be hoped that bee-keepers will unite in this work, and help to explain the mystery.

CHARLESTON, ILLS. H. C. BARNARD.

[For the American Bee Journal]

1. I think, with many apiculturists, that the impregnation of the egg is independent of the will of the queen. As Mr. Bickford, in the BEE JOURNAL of February, 1868, page 147, has advanced the theory that the impregnation of the egg depends on the depth of the cell, I desire to know if friend Marvin observed whether the drone cells, spoken of in the January number of the BEE JOURNAL, 1869, page 140, were reduced in depth by the bees.

2. I invite naturalists to examine with the microscope eggs dropped by the queen, while out of the hive, in the height of the breeding season, in order to ascertain whether they contain spermatozoids.

3. I do not think that the queen lays in queen cells, for she fears to give birth to rivals. Did any bee-keeper ever see a queen laying eggs in old or newly constructed queen cells?

4. I think that, in a normal condition, the bees do not build drone cells, unless compelled by want of room. The drone and store cells being constructed more rapidly than the worker cells; the bees build them in order to be in advance of the honey gathered every day.

5. I think that the queen finds less enjoyment while laying drone than in worker cells; and that she lays in drone cells only when compelled by want of room, or when hurried by the desire of laying, in the height of the breeding season.

I wish some of our bee masters would give us their views on these topics.

CH. DADANT.

HAMILTON, ILLS., Jan. 6, 1869.

The inhabitants of Frebizonde paid their tribute to the Roman Empire in wax; but the honey produced there was of a deleterious quality.

[For the American Bee Journal.]

Brooding Temperature.

MR. EDITOR:—My object in this communication is to call the attention of your many readers to one thing that should be sought after, by all who may be engaged in that most delightful occupation—"bee-culture;" namely, the best means of getting at the degree of heat required by the "law of nature," with the fewest bees demanded for the successful nourishing of the young bees and the making of wax.

All must admit that much is lost by the bees being unavoidably kept in the hive, to maintain the required temperature, when their services would greatly increase their wealth, if many of those thus detained could be added to the transportation company, to which they would gladly attach themselves, were it not for the law of instinctive duty which impels them to keep up a temperature of 80° F. in their hive.

This subject, with one other, has had my special attention for seventeen years, with a very satisfactory result. I see subjects of much less importance discussed at length, and my desire for the success of the business prompts me to call attention to it; and if desired I will give the results of my own experience.

The December and January numbers of the BEE JOURNAL are at hand, and I have perused them with much interest. I will endeavor to add some to your list of readers

We have a fine field for the bee business in this locality. Our country was almost depopulated of bees during the war. In the spring of 1865, there were not thirty colonies of domesticated bees in Jackson county; but the woods were full of wild bees. Many persons started with one colony, and that taken from some hollow tree in the forest. I know men who started on three colonies, and in three years some had fifty, some sixty, and some one hundred colonies.

The past season was the worst in this locality for twenty years, as reported by our oldest apiarians. My experience dates back only seventeen years, though I have been in this locality for thirty years. I am well convinced in my own mind that any amount of capital invested here in bees will treble itself in one year, with proper attention.

My object in the culture of bees thus far, has been experimenting, without any regard for increase or gain; but from this out I am going for the profits.

JAMES D. MEADOR.

INDEPENDENCE, MO.

It is a singular fact wax is more rapidly and largely made by feeding the bees with dissolved sugar, than from the honey they collect themselves—the sugar thus evidently containing more of the wax-producing elements.—SCHUCKARD.

If several days of rainy weather should succeed a swarm's coming off, they may die of famine if timely relief of honey is not given to them.—WILDMAN.

[For the American Bee Journal.]

The Season, Feeding, and Wintering.

MR. EDITOR:—The summer of 1868 was the poorest for bees in all this immediate section, that any owner of bees remembers. Those who apply common sense to matters petaining to bees, as well as to other transactions of life, find no difficulty in accounting for the fact in the peculiarity of the season. The spring and early part of summer was exceedingly wet, and afterwards proportionately dry until late, and the bees stored no honey. I had no swarm and did not hear of more than half a dozen swarms of black bees in all the country around. There were last spring only two persons who had Italian bees, and those did not all send off swarms. The result of the whole matter is that, at this date, more than half of the bees in the country are already dead, with a prospect that more than half the remainder will die before spring. All around you hear people wondering what is the matter with the bees. I answer, starvation. But, says one, such a person's bees are all dead, and they left honey. Now occasionally a colony may have perished from some other cause, and left honey enough to have wintered them. But I apprehend that, in a majority of cases, the honey left is small in amount and in such remote corners of the hive as to have been unattainable. One gentleman had about thirty colonies of Italian bees, and about an equal number of natives. About the first of October, he overhauled all of his bees, and took the stores from most of his natives, leaving them to perish, and strengthened his Italians. Another, having some fifty or more colonies, mostly Italians, fed them freely of sugar syrup in the fall.

I thought that if I had expected any of mine to live until spring, I must supply them with something to live on. During the last half of October and first of November, I gave them an average of about ten pounds to the colony of good white sugar made into syrup. Having no house or dry cellar of my own, I took a part of mine to a neighbor, who had a dry cellar; and the others I protected on their summer stands. Yesterday was warm and I set them all free, so that they could fly, and all appear active and in good health, with very few dead bees about them.

I have heard of only two reliable instances where there appeared to be any disease in bees, and that I think was dysentery.

Beekeeping is still in its rudest state here, and consequently all the old superstitions about bees, with lucky and unlucky persons, places, and seasnos, are rampant. The latest thing in that line I have heard advanced a few days since, by an old lady. It was new to me at least, and was this—that this was the locust year, and that the bees always all died off the winter after the seventeen-year locusts made their appearance. Now, I always look for some connection between the cause alleged and the effect produced. I can see none here, and reject the figment. But it is not more unreasonable or improbable than many other stories which are credited by persons otherwise sensible. There is a great deal of such rubbish to be cleared away before bee-keeping is placed on a level with the other industrial pursuits of the country, and made sure and reliable as well as pleasing and profitable.

What is settled conclusively about the alsike clover, as to its adaptability to our soil and climate, and its value for bee-pasturage particularly, and also for forage and pasture? It has been long enough introduced, and enough talked about, for something definite to be known. Whatever is known, however, should be published truthfully, so that, if it has any value, people may be encouraged to cultivate it; and if it is worthless, as I strongly suspect, they may be saved from the wiles of sharpers.* But I have already lengthened out this scrawl too much for the first, if it has any value.

JOHN C. HELM.

MAURICE, IND.

*A gentleman in Columbia County, New York, writes that he considers alsize clover the best bee-pasturage in the world. He has fourteen acres of it; and intends sowing more.—ED.

[For the American Bee Journal.]

Some time last year I read the announcement of "Nature's Bee Book," a valuable manual on bees, published by *Professor* W. Flanders.

I wrote for the book, sending twenty-five cents, and received in return a pamphlet of 64 small pages containing chiefly the praises of the Flanders' Bee Hive, Flanders' Bee Charm, Golden Queens, &c., &c. The small remainder of the book was a shapeless mass of compilations, intermixed with some queer notions about bees, written in a euphuistic style.

Of course, as the process of selling *a circular* so dear, was little encouraging to the purchaser, I did not send any money for the hive, or the bee charm, or the golden queens—concluding to expose the deception in the BEE JOURNAL; but meantime the man was reported to be *dead*.

However, as he reappears to-day, *big and fat*, I write this to put beekeepers on their guard against sending even the smallest sum for the book, for they would be far from getting value for their small outlay.

—

I have received Mr. E. Kretchmar's "Beekeeper's Guide Book." Although I am not partial to hives with closed top frames, I consider the book as amply worth its price.

—

I am so pleased with the hive of Mr. Price, as described in the November number of the BEE JOURNAL, that I will construct fifty such hives, this winter, for my own use.

You are in the right way, friend Price, in giving so good a hive without patenting it. I thank you, on behalf of the beekeeping community.

CH. DADANT.

HAMILTON, ILS., Jan. 6, 1869.

[For the American Bee Journal.]

Improved Method of Swarming.

Where bees are left to have their own way in swarming, it is found sometimes that one colony will throw off swarm after swarm, nearly swarming itself to death; while some of the families that came off are feeble and worthless. Then again, another colony, full of workers and rich in stores, and which should afford at least one good swarm, will do no such thing, but hang out and threaten, and yet make no decided movement. The following arrangement, it is said, will prove a remedy for this state of things. Suppose I have ten colonies, all numbered, as they should be. Number 1, on examination, is found to contain ten queens *in embryo*, and is therefore capable of supplying ten colonies, if the young queens are not destroyed. Number 1 inaugurates the movement and sends off a good strong swarm. Very well. Hive them, and give them their position. Now number 1 has lost half its numbers, and, for the present, its inhabitants are all in excited commotion, and they are now ready to receive new comers. Remove number 2 to a new stand, and place number 1 on the old stand of number 2. The workers of number 2 that are out in the fields, will, on their return, flock into number 1, and when the day closes number 1 is again strong in numbers and immediately concludes that it is best to send off another colony, and in about a week a second swarm will come off, hale and strong. Number 2 has lost enough of its numbers to make a swarm; it has indeed swarmed through number 1. It has a prolific queen and is rapidly augmenting its numbers every day, and will soon make up its loss. Meantime number 1 must be placed on the stand of number 3, and number 2 may be taken to the first stand occupied by number 1. Number 1 will be filled right up again as before, and in a day or two will send out another strong vigorous swarm, with a young queen. And thus the process may go on until ten swarms, all strong, have all come through number 1. This plan has been recommended, and is said to work well. It looks reasonable, and is worthy of trial.

P. R. Russell.

Bolton, Mass.

The senses evidently possessed by bees are sight, feeling, taste, and smell; but whether they hear we cannot know, although the antennæ have been supposed to be its organ, for the apparant responsiveness of these to loud and sudden sounds, may equally result from the agitations of the air which those sounds produce.—Shuckard.

No study, like natural history, pursued in a humble and docile spirit, so harmoniously elicits the religion of the soul, or so fitly prepares it to enter, by the pathway of the works of God, the august temple of His revealed word. —Schuckard.

[For the American Bee Journal.]

Candid Confessions.

To appease the wrath of Mr. Puckett, I suppose I shall have to write a confession, or, in other words, write a sort of preface to *my bee-book*.

When I was a great green boy, and was left one evening with others of my age, after exhausting all the fun and mischief we could think of, we caught the old tom-cat, and one was to hold him and another to but him on the head with the fist, merely to see *what effect it would have!* That disposition has never left us. If we remember rightly, about the first man we hit in the Bee Journal was Mr. Quinby; and he was hit on purpose to see what effect it would have, and not for any malice or ill-will. Then, knowing what was said against Mr. Langstroth's hive, its defects, &c., we hit him, and hit him hard. The object was to draw out both sides of the question as much as possible; and that we have succeeded in doing to a considerable extent. But, in order to keep up the *awful muss*, we have had to fight on both sides of the question.

Now, friend Puckett, you are considerably gritty; but we could take your side of the question, and beat you, all hollow. At least that is our opinion. In one of your articles you find considerable fault, because we did not explain everything as we went along. Well, if we had written barely one article, and no more, your fault-finding would have been just. But, when we commenced writing for the Bee Journal, our intention was and still is, to keep on writing our experience in beekeeping. Furthermore, our object in said article was to draw out Mr. Alley again. But, for some reason, he saw fit to pitch into us in private, instead of doing it through the Bee Journal. *Enough, however, on this head at present.*

Of all the perplexing questions for a new beginner to settle, on commencing bee-keeping, this is probably the worst one—whose patent hive shall I purchase; or whose form of hive is the best? Every patent hive man says that his hive is the very best—no other can begin to compare with it, &c., &c. Right here I will state that the only money we ever invested in any patent hive, was two dollars in T. B. Miners's Great Equilateral, Cross-bar, Cotton-cloth Humbug. Always having been a prominent beekeeper, wherever we have resided, we have had any number of hives given us on trial, &c. We have never been bribed to recommend any one's hive, and probably never shall be. On the other hand, we have never asked for any other man's money, in payment for any information or advice we could give. So that you can safely say, that Gallup has no design on your pockets—an independent candidate in the fullest sense of the word! Furthermore, you may call Gallup the new beginner's friend, and you will hit right every time. Just such a blunt, out-spoken, putty-head is wanted to write for the Bee Journal.

Here comes one of our patent hive gentry.

He goes on extolling the merits of *his* hive and running down the Langstroth hive, calling the latter a shallow thing, a rabbit hutch, &c., &c. In fact he has a special spite against that hive in particular. He says Langstroth was not the inventor, obtained his patent under false pretences, &c.; and finally winds up by requesting Mr. Gallup to buy a right to his hive, and make his fortune. About this time Gallup is green and asks some simple questions about bees, and bee hives, &c.; but finally wakes up a little, scratches his head, and remarks :—"Now, Mister, look here, you say that Mr. Langstroth is not entitled to anything for the use of the movable frames; and if he is not, pray tell us what you are entitled to? That is what I would like to know. Your patent slides, patent springs, thumb-screws, slanting bottom-board, &c., &c., are a perfect nuisance on any hive." That is not merely Gallup's say so, but it will prove to be so, to any practical beekeeper, providing he will lay all prejudice or preconceived notions aside. Now I think that new beginners will understand me, when I say—Purchase the right of the movable frames from Mr. Langstroth, if you purchase from any one. Then, if on trial, you do not like *the form*, you can change it to some other form, until you get *a form that does suit you*. There is not, nor ever has been, any question in my mind about the form that Mr. Langstroth uses being well adapted to the climate in which he resides; but *we* must have at least ten inches depth of comb, *in our climate*. The new beginner will understand that he can use the Langstroth principle in almost any form of hive that his fancy may suggest; for it is not the *form of the hive* that is patented, but the frames and the adjustment. If you happen to think that you can obtain more honey without the honey-board, you can take off the honey-board and set the boxes directly on the frames; and then you have all the advantages that Mr. King claims for his American side-opener. But do not make a hive of the American form, even expecting to obtain as good results as you will from a hive of medium depth of comb. A six-inch depth of comb is one extreme, and a nineteen-inch depth of comb is the opposite. As I said in a previous article, a medium depth gives the best results.

Well, friend Puckett, you will probably say that this is not attending to your case. In fact I think you were barking up the wrong tree. I cannot see any squirrel there. But if you wish to enter into a friendly discussion on the merits and demerits of different forms of hives, Gallup is your man. We, I am satisfied, might get up something, under that head, really interesting to the new beginner. At all events, let us hear from you again, and keep good natured about it.

There is one thing more that we have to confess in this article. That is, no man can accuse us of ever hitting him in a private circular, or in any paper where we thought it would not meet the eye of the person hit. We always give a man a chance to defend himself. We claim no privileges that we are not willing to grant to others. It is by free, open discussion that we expect to get at facts.

There is one thing more. Mr. Langstroth has many and zealous friends, as well as many enemies; and what public man has not; but, in counting up, we do not think you could safely set us down on the side of his enemies.

We see, in the January number, that we have succeeded in raising the Professor from the dead.

ELISHA GALLUP.

OSAGE, IOWA.

[For the American Bee Journal.]

Drones from Young Queens.

I wish to make a statement of a fact with us, which, if followed to what would seem probable, will save many troubles in Italianizing.

The idea seems to prevail that young queens will not lay drone brood the first season.

We obtained a young Italian queen the 23d of May last, and from her raised young queens to supply twelve colonies.

In August, nearly all made preparations to swarm, the season being exceedingly favorable.

In all those colonies which did swarm, and in some which did not, drone brood was reared, although some of the queens were very young. The black drones were nearly if not quite all destroyed during a scarcity early in July.

This proves to me that the wants of the colony, and not the age of the queen, is a guide for depositing drone brood. Therefore, if a young Italian queen can be introduced in a full colony of black bees, before drone brood is produced, the young queen will supply the deficiency. This would give all the benefit of drones the first season, from which, with the Köhler process of fertilization, a large number of colonies might be Italianized. Swarming commences here about the middle of April. Queens of the previous season can be spared by the 10th of April; and young tested queens can be had before the 1st of May.

There are many places where preparations for swarming do not commence as early as these dates—certainly not as soon as the 10th of April. In our own case, we raised a second crop of queens to satisfy the place of the first, which produced hybrid stock. These last became purely impregnated.

Of course such a chance is rare, even here; but by taking advantage of the facts above stated, (if they prove to be facts elsewhere, and it is reasonable to think they will), anyone can Italianize in one season.

A. G. WILLEY.

MURFREESBORO, TENN., Jan. 11, 1869.

INSTINCT is a faculty whose clear comprehension and lucid definition seems impossible to our understanding. Its attributes are various, and its operations are always all but perfect. It is an almost unerring guide to the creature exercising it; and is as fully developed on its awakening as is, and with it, the perfect insect upon its transformation.—SHUCKARD.

[For the American Bee Journal.]

Facts and Questions.

Mr. EDITOR:—Who can explain the problem why so many bees are dying in this section of country? Many of our beekeepers are losing large numbers of their stocks. The facts are these—in a majority of instances only one or two pints of *dead* bees are found, all told, both among the combs and on the bottom-board. If the condition of the hive is found in time, the queen and a dozen or two of the workers may be found *living*.

The next fact is, that, in a majority of cases, they leave from six to twenty pounds of honey—perhaps enough to carry a good swarm through the winter. Why have these swarms dwindled away to one pint, having both a living queen and ample stores for winter?

Is the honey *poisonous* to them, causing their death? Or did the failure of the honey crop, in the latter part of the season, stop the queen from breeding, and consequently cause a diminution of the stock, until there were not bees enough left to maintain a sufficient amount of animal heat to keep them from perishing, when the cold weather came on?

Have any of the old experienced beekeepers some other and better reason for the state of affairs? I find no satisfactory solution of it in any of our books. Who *can* answer? Who *will* answer? Who can tell us the remedy, and when and how to apply it?

If the thing was *poisonous*, how can the bees be saved so late in the season? If it was the failure of the honey that stopped the queen, or rather caused her to cease, from laying and the number of bees to be diminished, then do not Harbison, Thomas, and Gallup give us the remedy, when they tell us to *feed* during this time of scarcity, that breeding may be continued by the workers feeding and stimulating the queen? Why is her brood so limited at the coming on of winter, while possessed of ample stores for the winter at hand?

Or, lastly, if the queens have become barren—thus causing the failure, why should it be so extensive and general? Will the queen cease to lay eggs, if the bee-pasturage fails?

Is it a general thing, everywhere, that the bees are dying; or is it confined to certain localities? If *general*, or *local*, tell us why it is so, if you can; and name the remedy.

J. DAVIS.

CHARLESTON, ILLS.

The economy of nature is so perfect that wherever we can trace a difference, we may assume that a reason and a purpose exist for the variation. Thus we do not yet know why some species of bees have three sub-marginal cells to their wings, and others only two.

In Spain and Italy bees are largely cultivated; and in the former country many a parish priest, the religious monitor of an obscure hamlet, can count his five thousand hives.

[For the American Bee Journal.]

More of the Disease.

Last season the bees did little or nothing in swarming, and made no surplus honey, in a general way; and nearly all that was gathered had a peculiar, bitter, pungent taste, so that it would have been worthless for table use.

At this date (January 14, 1869) over one-half of the stocks are dead in my territory; and those that are still alive are, with few exceptions, not doing well. They commenced dying early in the fall, flying off never to return. On opening the hives after the bees were dead, we generally found plenty of honey, with a rather scant supply of pollen. The dead bees seem to be very full of a very offensive fluid-like matter.

What the end will be I know not, but think there will not be many stocks left. Those who have kept bees twenty-five years say they never knew bees do so. I would say that some few owners never had bees seemingly do better than this fall and winter; while those around them lost nearly all they had.

For myself, I shall stick to the business, believing the disease to be of an epidemical character; after which the keepers will reap a rich harvest. And to aid me in the undertaking, I send enclosed two dollars for that *invaluable* BEE JOURNAL, every number of which is worth the price to the person who has as many as twenty stocks of bees.

C. B. MOORE.

SARDINIA, OHIO.

[For the American Bee Journal.]

I should hardly know how to get along without the BEE JOURNAL, as I receive so much valuable information through it from your numerous correspondents, in all parts of the country. NOVICE'S experience is so natural that it forcibly reminds me of some of my own ludicrous blunders when I first began beekeeping, ten years ago. Especially when I moved six stocks, which I had taken on shares, about twenty rods on the first of June, and in the evening found nearly a bushel of bees clustered in the shed I had taken them from. What to do with them I did not know. I had no BEE JOURNAL then to consult, nor any other work relating to bee-culture—though having heard of Quinby's book, I sent for it a few days later. Procuring a sheet and brushing the bees on it, I carried them to their hives, and spreading it out I let them select their own home. Of course a great many bees were lost, but as they were breeding rapidly, they soon recruited again, and in July following I got a few swarms.

Novice lives a little further north than I do, but I was ahead of him in early swarming last season, as I had two in May, one on the 10th, and the other on the 11th; and that too without feeding, to stimulate them to early breeding, if we except a little rye flour. I am sorry to say that those two swarms are the only ones I know of that collected stores enough to carry them through the winter.

D.L. KIRKPATRICK.

NEW PARIS, OHIO.

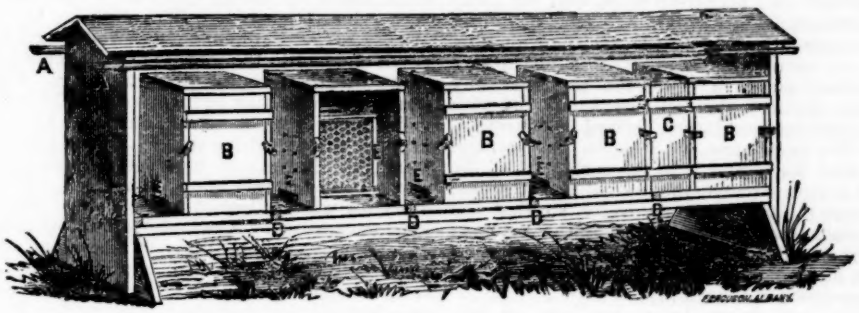

FIG. 3.

[For the American Bee Journal.]

The Eureka Hive.

The Eureka hive, in its simplest form, and perhaps its best, is constituted of six boards. Two boards 24 inches long and 22 inches wide form its front and back sides. One board 20 inches long and 22 inches wide forms its top. One board 23 inches long and 22 inches wide forms its bottom. These four are inch boards, nailed firmly together, as shown in the plate, with two shutters of half-inch stuff, 24 inches long and 18½ inches wide, fitted in and buttoned, (B. B, fig. 3), form the body of the hive. For an entrance for the bees in front, and for ventilation in the rear of the hive, an aperture 2 inches by 8, is cut out at the bottom, as shown at F; and on the back side a piece of wire gauze is fastened for ventilation; and in front the piece F is introduced to properly contract the entrance. My other device may be introduced, to catch robbers or shut out drones, &c. Here we have the whole hive of about the capacity of 9,000 cubic inches. We now divide it into a central apartment, for the breeding and wintering the colony, and side and top chambers for the surplus honey boxes. The central apartment is composed of six movable comb frames, the top and bottom of each ⅞ inch wide, the sides ⅜ inch thick, framed into the top and bottom pieces, forming a square frame, even upon its four sides, standing sixteen inches high and 17¼ inches wide. That is, the top and bottom pieces are 17¼ inches long, and the side pieces 16 inches. I drive a nail (B., fig. 1,) into the under side of both ends of each bottom piece, projecting half an inch, raising the tops of the frames 16½ inches from the bottom-board. To keep the frames adjusted with the sides of the hive, drive a nail, projecting ⅜ inch into both ends of the top and bottom pieces, keeping every frame three-eighths of an inch from the boards forming the front and back of the hive. To hold their position to each other, I drive a nail, projecting half an inch, inside of the top and bottom of the frame E, preserving a distance of half an inch between the frames. Then prepare the second frame in the same manner in relation to the third, and so on to the last. Next, to secure the outer frames from interference by the movable partitions or boxes, which, each in their turn, form the walls of the central apartment, I drive into each outer side of the top and bottom pieces, a nail projecting three-eighths of an inch, as shown at C and D, fig. 1.

Thus it will be seen that no part of the wood of the frames comes nearer than three-eighths of an inch to any part of the hive, or of the other frames. Nothing but the heads of the nails present themselves to the wood, for the bees to glue together.

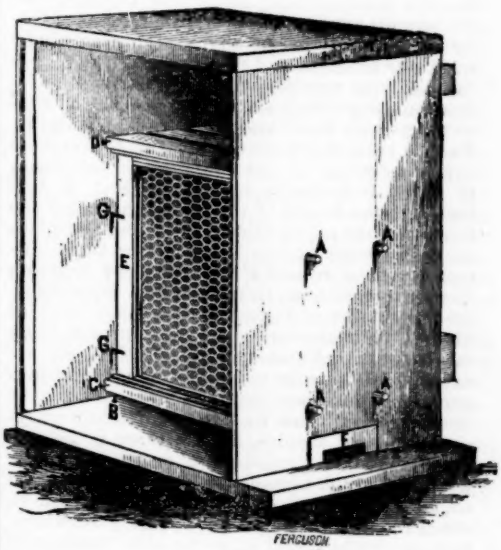

FIG. 1.

To hold them to their position in the hive, I introduce four or six pins, front and rear, five-eighths of an inch in diameter, (as shown at A A, fig. 1), passing through the boards and holding the frames, as shown at G, G. I have at any time only to remove the pins, to take the frames out laterally, without lifting them more than just enough that the nails on which they stand shall not touch the bottom-board.

To complete the central apartment preparatory to winter, I take two boards eighteen

inches long and seventeen wide, and set them against the nails C, D, with one edge standing on the bottom, and fasten them in their place by a thin wedge or a nail; and take a board that will reach across or cover the top, with any aperture through the top board covered with wire gauze for ventilation, desired by the operator. We then have the bees in the central apartment for winter. In the early part of the honey season remove the movable partitions, and place the surplus honey boxes, so that the inner ends, shall occupy precisely the place of the inner side of the movable partition, as shown in fig. 2, and the hive is prepared for the summer labor of the colony.

If any prefer frames in another form, or prefer bars to the manipulation of frames, every one can build to his own preference. The boxes may be of any desired number or size. I have the boxes I now make for use, six inches long, six inches wide, and five and a half inches high, outside measurement. The arrangement of the boxes, as is seen, is to place one upon another, forming upon both sides of the central apartment a wall, and enclosing it.

I build hives of three sizes. One size with two six-inch boxes side by side—that is, twelve inches wide with ten eleven and a quarter inch frames sixteen and a half inches high, and eighteen top boxes; the top boxes longer than the side boxes, giving about one hundred and ten pounds surplus. One with these boxes side by side, twenty-seven boxes, giving nearly or quite one hundred and fifty pounds, if full, (see fig. 2); and another with four boxes side by side, making thirty-six boxes, capable of containing about two hundred pounds of surplus. Each is built in the same manner as the medium hive illustrated. I have in reserve, for room, if I find it desirable, to add five and a half inches to the height of my hives, and when the top boxes are partly filled, raise them and place another course of top boxes under them—increasing their capacity, say thirty per centum; having twenty-four, thirty-six, and forty-eight, for the number of boxes on the three sizes of hives. This increase of size for surplus room may appear ludicrously enthusiastic; but my experiments thus far convince there is little danger of too much box room. This would give in the large hive, room for two hundred and sixty-six pounds of surplus, a little more or less, in surplus boxes. I think a prolific Italian queen would supply the brood for laborers to fill them all, in a good field and season. And with so much room, they would not be likely to swarm. One important object is, to be able effectually to control the swarming, even if we depend upon natural swarms; which we need not do, though some prefer it.

Fig. 3 shows a stand of five hives, D, D. Entrance, E. Shutters, B, B. Shutters between hives, for winter, C. Eave troughs, A, A. The bench and ends just the width of the hive, 22 inches. The roof boards may be any width desired, to secure shade. Two other supports should be placed under the bench, under the inner edges of the second and fourth hives. A bench twelve and a half feet long gives room for five medium sized hives illustrated, and ten inches between for the entrance of the bees on both sides of the stand. The alighting board is always kept dry. The stand placed lengthwise, north and south, the morning and evening sun shine directly upon the alighting board. If preferred the hives may be turned a quarter round, and the alighting board and entrance be parallel with the side of the stand. But as they now stand, the boxes and movable frames may be approached directly upon both sides. Preparatory for winter they should stand as they are here represented. The boxes should be removed, the movable partitions in place, the whole space between the central apartment and the shutters and top of the hive be filled with straw or other suitable material. The device F (fig. 1) be taken out, and the aperture covered with gauze. The spaces between the hives should then be filled with straw, the shutters, C, be closed, and the bees kept perfectly dark and

FIG. 2.

warm for winter. It may be well to place a board on each side between the top of the hives and the roof boards. I think the bees are then safe for winter. Should any think otherwise, they can set straw all around and bank up as much dirt as they please.

It will be seen that every farmer may put the six boards together to form the shell of the hive, prepare the entrance, and make four fly holes; place in six bars with their undersides beveled and brought to an edge in the centre, fastened by nails driven through the sides of the hive into the ends of the bars. The boxes may be of any size, only leave them just fill the space, to serve as a partition, that bees may not stray all around the hive. He may thus secure from one to two hundred pounds in every season, if he has on a full suit of boxes, with guide comb, early in the season.

I present this hive and these views with con-

fidence. I had four colonies in 1867, placed in the season before. They gave me four new swarms and five hundred pounds of surplus honey. They were the only ones in use. This, with honey at twenty-five cents per pound, and swarms at five dollars, is an average of fifty dollars each—enough to pay forty-six dollars for the four hives, twenty dollars for the four swarms, ten dollars for the right to use, and a balance of one hundred and twenty-four dollars in net profits. I here estimate the honey at twenty five cents per pound. It was so white and nice, I sold most of it for forty cents per pound.

My claim is the combination of the central apartment, the movable partition, and the side surplus honey boxes.

JASPER HAZEN.

ALBANY, N. Y.

[For the American Bee Journal.]

Prolific Queens.

I read with much interest, in the December number, Mr. Gallup's article on "Prolific and Long-lived Queens." It is a subject which demands our earnest, careful attention.

I raise queens for my own use, by keeping all Italian stocks strong in the spring, by moderate feeding, to secure early drones; and as soon as queen cells are formed in my imported stock, I swarm it. As fast as cells are ready, blacks or others are swarmed, and cells introduced to the old stocks. The queens all seem very prolific, though not all pure.

When raising queens for market, I *invariably* start them in full stocks. When the cells are sealed, I remove them to a hive of the regular size, but contracted inside by a division board, so as to contain but two or three frames, which are taken from another hive with *plenty* of bees. I sometimes make one hive answer for the nuclei, by having entrances at opposite ends and painted different colors.

My queens raised during the past season were all very large. I now raise none *out of the swarming season*, although this method is more expensive than the old one I used to practice, of raising them in small boxes, and from May to October. The queens are so much *more prolific*, that it will pay the extra expense.

It seems to me that if more care were taken by some of our leading breeders, to follow nature closer than they now do, in the raising of queens, the reputation of the Italians would be far ahead of what it now is. Purity is all very well, but fertility ought to be the first consideration.

GEORGE O. GOODWIN.

DANVILLE, P. Q., CANADA.

It seems that bees themselves cannot collect with impunity honey from noxious flowers, for they are occasionally subject to a disease resembling vertigo, from which they do not recover, and which is attributed to the poisonous nature of the flowers they have been recently visiting.—SHUCKART.

[For the American Bee Journal.]

Caution to Beekeepers, in Procuring Italian Queens to Breed from.

Beekeepers who wish to get pure stock to breed from, to Italianize their apiaries, cannot be too particular as to the responsibility of the parties whom they patronize for this. We have been imposed on more than a little in this respect, having purchased some dozen or more queens, from different breeders, out of which we could probably select three or four pure enough to breed from. The evil is not so much in the loss of the outlay, as in the mixed and perverted stock of bees it introduces in our apiaries. True the capacity of these for storing honey is perhaps equal to that of the full bloods; yet when we obtain them at the cost of the genuine, we are naturally led to expect a realization of the full benefit of expected superiority, not only in point of industry, but in every other desirable quality. That the Italians, when pure, excel the others, blacks and hybrids, in beauty of color and peacefulness of character, there can be no doubt. That we must have these points of difference, so peculiarly characteristic of the progeny of some queens we have obtained, present in those queen mothers which we propagate from, if we would preserve the species distinct and uncontaminated, is equally true. Therefore every beekeeper who contemplates procuring the Italian variety of bee, for the sake of the benefit of their superiority over our common kind, ought, in justice to the breed, and in deference to his own interest and that of his neighbors, procure them pure, because in this state only will they yield him their full value. We have had a few queens in our apiary from certain breeders, which, for purity of stock, challenge comparison anywhere this side of the Atlantic. Among these there is a queen from the apiary of Adam Grimm, which we obtained some time last summer, at a trifle more than the advertised price, and which we regard as a most valuable acquisition. Meantime, as we have a goodly number of colonies to Italianize next season, mostly the result of purchases last fall, we intend, if Providence permits, to increase our list of queen breeders next season, by accessions from the apiaries of other responsible parties. We believe in the utility of a multiplicity of breeders, as an antidote to the injurious consequences of "in-and-in" breeding.

JOHN L. MCLEAN.

RICHMOND, OHIO.

There is a kind of green honey furnished in Western India, the produce of a bee indigenous to Madagascar, which is remarkable. It is of a thick syrupy consistency, and has a peculiar aroma. It is much esteemed on the peninsula of India, where it bears a high price. Whether its greenness of color is derived from the flowers which this species frequents, or is incidental to the nature of the bee, has not been ascertained. —SHUCKARD.

Bees are very fond of garden and wild mustard.

[For the American Bee Journal.]

The Professor Alive!

Gallup has been hitting the Professor pretty hard. In the first place, the object was to find out whether the Professor was alive, &c. He says that Gallup's assertions in regard to him, are not true. I sincerely hope they are not. I am aware that "hearsay is not evidence." Therefore I wished to call out the Professor.

Within the last two years I received about a score of letters *unsolicited*, asking my opinion of Mr. Flanders—the writers stating that they had been badly cheated by him; that they supposed, as he raised his queens on an island, they consequently must be pure, &c.; but that he palmed off impure ones on them. Now, as it is my wish always to say publicly, what I have to say, I can tell what I have been informed about the Professor; and then he can have a good chance to make all necessary explanations.

Two years ago, last spring, I received a flaming circular from the Professor, setting forth the advantages of his Kelley's Island Apiary, the purity of his queens, and the advantages of his Beekeepers' Institute, &c., &c. In a few days after I received another circular, from another party located on the above Island. Both circulars claimed that each was the only party having bees on said Island, and both were certified to by a Mr. Carpenter and others. Being personally acquainted with persons residing on said Island, I took the trouble to inquire into matters and things. It appeared from that inquiry, that the Professor did, in the previous season, employ or enter partnership with a Mr. Aaron Benedict, the party from whom I received the second circular. Mr. Benedict went to the Island and raised the queens. The Professor was secretary and treasurer; shipped the queens raised on the Island; and at the same time shipped hybrids or anything that happened to be convenient, from the mainland. When remonstrated with by Mr. Benedict, he replied that "the parties receiving the queens in all probability never saw an Italian bee, and if they received a queen in any respect different, or that produced bees differently marked from common black ones, they would be satisfied," or language to that effect. Furthermore, Mr. Benedict raised some seven hundred (700) or eight hundred (800) dollars worth of queens, and the said Secretary of the above-mentioned Beekeepers' Institute pocketed the money—Mr. Benedict receiving "nary red" or "greenback," for his services. In the following season he went to the Island on his own account, and the Professor still sent out his Kelley's Island circular. This accounts for my receiving *two* circulars almost at the same time. At this period the Professor had no bees on the Island, and consequently his (the Professor's) circular was a *sell*.

Last season, and the season before, the Professor sent out circulars into the west, stating that he could furnish queens raised from imported mothers by Mrs. Tupper, in this State. In that circular there was a certificate purporting to come from Mrs. Tupper, stating that his queens were as pure as any in the country, &c. At this time, if I have been rightly informed, Mrs. Tupper had never imported any queens; but the way the Professor obtained queens from Mrs. Tupper, was not the most honorable, in my way of thinking. It appears that he sent a line to Mrs. Tupper requesting an exchange of queens; and Mrs. T. forwarded to him two queens, for which, in course of time, she received in return one drone-laying queen and one hybrid; and she had the satisfaction of paying the express charges and taking their heads off!

I will state to the readers of the BEE JOURNAL that I have no personal spite against Mr. Flanders—not in the least. If any one wants to make further inquiries, he can apply to Mr. Aaron Benedict, Bennington, Morrow county, Ohio. Further, if the Professor had signed M. D. to his name, I never should have called it mule driver. Again, I have never seen any of his graduates of the famous Beekeepers' Institute; and Mr. Benedict is the only one I ever heard of. If I am rightly informed, he graduated with all the honors, and the Professor got all the money.

About the BEE JOURNAL's being good to take, I never heard any person say to the contrary. But, what about the *Bee-charm? Is that good to take?* Now to all those asking my advice about procuring queens from the Professor, my reply is, if I heard nothing else than only of his selling a bottle of Bee-charm for fifty cents, that, in my estimation, would have been sufficient to condemn him as a man of honor.

ELISHA GALLUP.

OSAGE, IOWA.

P. S.—I have received three letters enquiring whether I do not think that the Professor has been into Kentucky with his Bee-charm, and taken the bees away *en masse*. If he has, and should attach M. D. to his name in his next circular, it would be an easy matter to interpret it.

E. G.

Bees are exceedingly susceptible of atmospheric changes; even the passage of a heavy cloud over the sun will drive them home; and if an easterly wind prevail, however fine the weather may otherwise be, they have a sort of rheumatic abhorence of its influences, and abide at home, of which I have had sometimes awful experience in long unfruitful journies.

The cause would seem to be a deficiency of electricity in the air; for if the air be charged and a westerly wind blow, or there be still a sultriness with even an overcast sky, they are actively on the alert, and extremely vivacious. They are made so possibly by the operation of the influence upon their own system conjuctively with the intensity of its action upon the vegetable kingdom, and the secretions of the flowers, both odorous and nectarian.—SHUCKARD.

In spring particular care must be taken to keep bees from famine, and robbing by other bees.

THE AMERICAN BEE JOURNAL.

WASHINGTON, MARCH, 1869.

☞ The American Bee Journal is now published monthly, in the City of Washington, (D. C.,) at $2 per annum in advance. All communications should be addressed to the Editor, at that place.

We have received from Mr. Lambrecht, of Bornum, in the Duchy of Brunswick, two communications for the Bee Journal, which we shall translate and insert at an early day. The first is an essay on "the production of the queen bee," in which some novel views are presented, and the subject is treated with much ingenuity. The second is on "the effect of water on the combs and the life of the bees," being a contribution to the foulbrood question, in elucidation and support of the views expressed by him in his previously published articles.

Those who have empty drone combs will find them convenient and useful in feeding rye or oat meal to their bees. Fill the cells on one side of such a comb with meal, and set it slanting within the shelter of an open-end box, and the bees will carry off the meal with comparatively little waste. To attract the bees to the place, some diluted honey poured in an empty comb, should be placed in the box a few days previous, and removed when the meal feeding is to commence. The edges of the cells appear to furnish the bees with the requisite support and facilities for quickly forming the pellets into which they shape the meal when packing it in their baskets.

Where a colony of bees is to be fed to keep it from starving, it must be done immediately when it is discovered that impending want exists, and continued regularly, plentifully and perseveringly, until the opening season enables the bees to supply themselves from natural sources. Yet food should not be furnished so lavishly at any time, as to induce the bees to store it up in the cells in quantity, or lead to a premature production of brood. There is nothing gained in having young bees mature, in a tolerably populous colony, much in advance of the usual honey-gathering season. The heat of the hive will tempt them to fly out at unpropituous moments, and many will be chilled and lost. Far better retard brooding to a later period, so as to have the working force of the colony in full strength and continuous vigor, just when the usually profuse supplies of nature can furnish employment to unlimited numbers.

Those who resort to *stimulative* feeding usually begin too early, and feed too liberally. In the Middle States it is early enough to begin about the first of April, and administer small doses, say a spoonful, of diluted honey, in the *evening* of alternate days, at the mouth of the hive.

At a recent meeting of Hanoverian beekeepers, at Celle, Mr. Lehzen, who had all along professed to regard the Italian bees as in no respect superior to the common kind, stated that he had been induced to change his mind by observing that a rape field situated at a great distance from an apiary, was visited exclusively by Italian bees—thus demonstrating that these enjoyed a wider range of flight than other bees, and could consequently command greater or more diversified resources.

Dr. E. Parmly, of New York, has sent us a small phial containing "some bees from Mount Lebanon, said to be closely allied to the Egyptian," though, in alcohol, no difference is perceptible. Also, "two bees lately received from Ceylon, which are not named. They are smaller than the Egyptian, and differently marked."

The Board of Superintendents of the New York Central Park are following the example of the Acclimatization Societies of Paris and Berlin, in introducing bees. They have now several Italian colonies; and have taken active measures to procure other foreign varieties.

Seed Catalogue and Floral Guide for 1869.—M. O'Keefe, Son & Co., the celebrated Seed Importers and Growers, of Rochester, N. Y., have just published their annual "Catalogue of Seeds and Guide to the Flower and Vegetable Garden." This new and valuable work contains full descriptions of about fifteen hundred varieties of flowers and vegetables, with instruction for their cultivation, and directions in regard to the best use to make of them in laying out parterres, gardens, etc. It

will be sent free on application to M. O'KEEFE, SON & Co., Seedsmen and Florists, Rochester, New York.

Caution.

MR. EDITOR:—In the February number of the JOURNAL, we notice that Mr. Hazen has furnished you with a description of his "Eureka hive." We may be premature in conjecturing how it reads; but we take it for granted that his communication is essentially the same as that he has published in other papers. In those, he says:—"For the central apartment use either comb frames, or bars, at pleasure." It may not be out of place for us to add, for the *full* information of the readers of the JOURNAL, that the comb frames illustrated in his cuts come under the claims of L. L. Langstroth's Patent, published in full in the February number of the JOURNAL. The *pleasure* of those using them in the "Eureka Hive" would be much enhanced by their possessing the "right" to do so, as otherwise they would be liable to damages for the infringement of our Patent.

With the other parts of Mr. Hazen's hive, and with his theories, we have in this place nothing to do, our object being simply to caution the public against the use of our property, either in the "Eureka Hive" or any other, without paying for it.

L. L. LANGSTROTH & SON.

OXFORD, OHIO.

[For the American Bee Journal.]

Bee Botany.

MR. EDITOR:—As the time of most interest to beekeepers is near at hand—the time of blooms and honey gathering—will you permit me to make a suggestion through the pages of your valuable JOURNAL.

It is a matter of the highest interest to those who would have an intelligent understanding of the capabilities of our whole country for the production of honey, to know what flowers of value for bee-pasturage grow in the different parts of the country, when, and how long they bloom, and what is their comparative value. I wish therefore to suggest to young readers, that they observe and make a note of—

1. The plants which furnish bee-pasturage—giving their botanical names whenever possible.
2. The period of flowering, and the length of time they are in bloom.
3. The comparative quantity and quality of the honey furnished by different plants.
4. The observations actually made in regard to such plants, as may be cultivated on purpose for honey.

If persons in all parts of the United States will make accurate observations, and report them through the pages of the BEE JOURNAL, it will not only interest apiarians, but botanists also, and those in general who study the resources of the country.

I will take my own advice, and in due time present to your readers the results.

JOHN HUSSEY.

GLEN DALE, HAMILTON CO., OHIO.

[For the American Bee Journal.]

Novice's one Blunder of 1868.

Now, Mr. Editor, and the rest of the knowing ones, as Mr. Gallup calls them, please don't think, from the above heading, that we call the rest of our work of 1868 perfection. What we mean is, that from our standpoint we see no glaring blunder except the one alluded to—which was as follows:

On a bright sunny Sunday afternoon in May, 1868, (now we always intend to respect the Sabbath, but it seems our bees do not; and if they want to swarm, or any of the young queens are ready to hatch, they do not seem to care a cent what calender clocks and theologians have to say about proper days for labor or rest, &c.; but rather the contrary, as though they thought it an excellent opportunity to "show off" their utter disregard for the fixed rules and careful bringing up we have been at so much pains to give them), but to return to that sunny Sunday afternoon, if we can find it, after so long a ramble. We were passing a pleasant hour, reading a chapter in "Dickens" to a friend, when it struck us that we had started some queen cells, or rather had taken the proper steps to induce a colony of bees to do so, just nine days before, intending to remove them on the morrow; and fearing that some precocious aspirant to royalty might take a fancy to come out before the usual time *because* it was Sunday, we decided upon an examination and invited our friend, who "knew bees some," to witness the operation.

Sure enough, a young queen was just gnawing a hole into the outer and wicked world; and to prevent her from having the sin of murder on her conscience at such an early age, we thought we were excusable in removing temptation from her path, even if it was Sunday. Accordingly we removed frames with the adhering bees from several strong hives, and inserted the surplus queen cells, being careful as usual to see that we removed no old queen. But as the case was urgent, we must confess we ran our eyes over the frames more hurriedly than usual.

After getting everything all right, as we thought, we resumed our reading till evening, when we examined our small colonies to see how many queens were hatched. The one mentioned was out; and another, where we had given only a single frame, had the cell open, and in looking carefully we found a fine large queen—a *remarkably* fine large queen. But, alas, she had only one wing, and we were about to pinch her as useless, when our friend desired to try her first and see whether she would not lay eggs, as Mrs. Tupper had had one that did so under similar circumstances. Although we had little faith in such an experiment, we finally put her in a cage and laid her at the honey-board of another hive, giving the nucleus another cell. She remained there some weeks, was fed by the bees, and seemed lively, when the thought struck us of putting her with nuclei-raising queens, to prevent them building drone comb. This plan succeeded so well that

we used her all summer in this manner in a dozen different hives as cases required, and were about writing to you of a plan for making use of imperfect queens.

In the fall, having no further use for her, we released her in a queenless colony, by way of experiment; and, strange to say, she commenced laying immediately, and produced *real Italian workers!* Mrs. Tupper corroborated.

Some time before this, we had noticed that one of our heaviest stocks had done very little all summer—had cast no swarm, and stored but little honey in the upper story. It was in the improved Langstroth hive, and was in every respect as good a stock as the one that gave us the 203 pounds.

Of course you see it all now. The imperfect queen was the old one that we had clipped the season before, and had torn open the cell immediately, though it looked very much as if a sound queen had hatched from it.

You knowing ones can laugh at our not being able to tell a queen one year old from one only one hour old; but perhaps that too was because it was Sunday.

As the heavy stock had not succeeded in raising a queen we gave them their old one again, after she had been bandied about two months in a cage. Query, did she recognize her old home? She was received all right as soon as presented. The blunder cost us at least 100 pounds of honey.

Is it not *possible* that Mrs. Tupper removed *two* fertile queens, as it is now established that two are frequently found in one hive?

When queens are suddenly removed why do stocks so often fail in replenishing them, if left to themselves? Such has been our experience several times.

A firm resolve to "look sharp" enough, so that we may avoid falling into the same error in future, is nothing new for

NOVICE.

[For the American Bee Journal.]

Our Honey-Emptying Machine.

MR. EDITOR:—We receive many inquiries in regard to the above, which we will try and answer here. We supposed your readers had all seen the engraving and description of Mr. Langstroth's, in No. 3, vol. 10; so we were not as particulor as we should otherwise have been in our explanation.

Of course the comb has to be turned, as the honey comes from only one side at a time; and *very heavy* combs should be only partly emptied from the first side, as the weight is apt to injure the comb, unless turned very slow.

We do not know that it makes any particular difference in regard to size of wire cloth, that is, whether coarse or fine; but should prefer it rather heavy, as the weight of honey is apt to stretch it out hollowing if too light.

As to irritating the bees, the effect is quite the contrary. As our time during the honey season was much occupied otherwise, we very often shook the bees from the frames as fast as we could handle them, hybrids and all, without any kind of smoke or BEE CHARM, and the oftener we shook them, the less they noticed it.

As we had, or managed to have, a full set of empty combs with the American hive, we frequently shook the bees from *every comb* in a heap in front of the hive, replaced the empty combs instead, and let the bees crawl in at their leisure—paying no attention to the brood, whether capped or uncapped, except to turn slower, so that the larvæ were not thrown out; which any one can do with little practice. That the brood is uninjured by the process we tested repeatedly, by giving frames thus emptied to weak stocks; and in one case we raised a lot of fine queens accidentally from a frame that had a little uncapped brood in it, after being whirled. Towards the last of the season we made a fine swarm from brood remaining in our extra set of empty combs; that is, we gave the empty combs to first stock, and so had a set in their place when we finished which contained brood. These, with a fertile queen, and perhaps a pint of bees with her, soon made a tolerable swarm.

The honey is not at present as saleable as that in the comb, although we have had little trouble in getting twenty-five cents a pound for it; but have had many calls for comb honey, when nothing else would do.

Both white clover and bass wood honey have candied solid since the cold weather set in; but this can be melted again by keeping it in an oven or other place at a temperature of about 206° F. for some time. And we *think*, but are not quite positive, that after this treatment it will not candy again.

Will some better chemist than ourselves tell us of some harmless ingredient, to prevent this crystalization process?

Many correspondents ask us for samples of our labels for the jars. We subjoin one for their inspection.

MEDINA, OHIO. A. I. ROOT.

A circumstance which may render it very necessary to feed bees, is, when several days of bad weather ensue immediately after they have swarmed; for then, being destitute of every supply beyond what they carried with them, they may be in great danger of being starved. In this case diluted honey, or sugar water, should be given them, in proportion to the duration of the bad weather.—WILDMAN.

[For the American Bee Journal]

Workings of the Honey-Emptying Machines.

MR. EDITOR:—In the January number of the JOURNAL, I suggested that, as the Italian bees are belligerent and not disposed to submit, when they have full stores, to have their goods spoiled without a protest, that the frequent removing of frames and brushing the bees from the combs, in order to empty the honey, might exasperate their dispositions to such a degree as to render them unendurable; and I asked for light on this point. My friend, H. Alley, of Wenham, (Mass.), has somewhat relieved my difficulty. The plan is to use on the top of the hive narrow boxes, and remove the honey from these instead of from frames. He makes and uses the Langstroth hive, and on one of these he places fourteen boxes. He has an improved Langstroth, on and around which he places twenty-four of these boxes. They are 7½ inches long, 2¾ inches wide, and 6 inches deep, with glass sides, and hold three or four pounds of honey each. The surplus honey is stored in these small boxes, because it sells better in the Boston market in small packages. Each box contains one comb. He says he placed some of these boxes full of honey in the machine, and it worked like a charm and removed the honey in a few seconds, without injuring the combs in the least. He thinks a good swarm, in the best of the season, would fill a set of these boxes, having the empty comb, in one day. If they would do it in a week, it would be great honey-gathering. If the bees will work in these boxes as they will on frames, it will be undoubtedly the best way of managing them in connection with the honey-emptying machine. As these boxes are to contain only one comb each, I think they might be reduced to 2¼ inches in width, and then sixteen could be placed on a hive. I have demonstrated the fact by a few experiments that bees will go into boxes placed directly on top of the frames, and will work with eagerness at times when they will not ascend through holes in the honey-board. Place these long narrow boxes on the top of the frames in two rows, fourteen or sixteen in number, and when the bees have filled them with comb and honey, take them to the machine, (after the bees are disposed of, which is easily done), empty them and replace them, and thus let the work go on. The glass sides are easily removed. They are five by seven inches, slide in grooves cut in the ends, and are kept in place by wooden strips, one inch wide, champered at the ends to fit the groove. This strip is pressed down to the glass, and holds it in its place.

P. R. RUSSELL.

BOLTON, MASS.

Many hives of bees which are thought to die of cold in the winter, in truth die of famine, as was the case in the winter of 1759; for the constant rains of the preceding summer hindered the bees from laying in a sufficient store of provisions. The hives should be carefully examined in the autumn, and should then contain at least twenty pounds of honey.—WILDMAN.

[For the American Bee Journal.]

Artificial Swarming, and Bee Stings.

In volume 3, pages 63 and 91, is given a method of artificial swarming by "Belmont." Being a beginner in beekeeping, I was induced during the past season, to try what appeared to be a very simple mode of effecting that operation; but I must say the results were not at all satisfactory. In each case, at least one frame of brood and honey was given, and a sealed queen-cell inserted. In more than one instance, however, the bees destroyed the cell given to them and commenced others; and in every case (though the season has been most favorable for honey-gathering in this locality, and none were divided later than the eighth of June), the bees have failed to give any surplus Indeed they have been weak in numbers throughout and are barely fit for wintering. I have no doubt the method pointed out would do well, if occasional help in the shape of brood from the parent stock were added. On the other hand, the hives removed from their stands and retaining the queens, soon became too full and were constantly trying to swarm. I found too that any new combs built by these last were almost invariably drone comb.

My experience corroborates the statement on page 107, with regard to the effect of the poison of stings. Three years since I scarcely regarded it; but now it produces great pain and swelling, the later not subsiding for two or three days.

BRIAR.

ONTARIO, CANADA, NOV. 1868.

P. S.—NON-SWARMERS.—I have lately been informed that in the northern part of New York, and in Vermont, many beekeepers are dispensing with hives; and instead are placing swarms in houses constructed for the purpose, into which they can go for honey at pleasure. Not having seen any notice of this system in the BEE JOURNAL, I conclude it is not much adopted.

[For the American Bee Journal.]

Improved Un-Paten'ed Bee-Feeder.

With a brace-bit bore a hole of suitable diameter through the honey-board; file it, to make it somewhat conical on the upper side of the board. Procure a thick tin ring made to fit loosely in the hole: and just as broad as the hole is thick. Spread a small piece of linen cloth over the hole, push in the tin ring, and insert in it a feeder such as described by Mr. Price on page 120, of the December number of the BEE JOURNAL. With this device you can remove or insert the feeder, without interfering with the bees.

CH. DADANT.

HAMILTON, ILLS.

A fine winter is dangerous to bees, and many more of them die in a mild winter, than in a cold one.